

To: Engineering Services Division, Bureau of Air Quality  
South Carolina Department of Health and Environmental Control  
2600 Bull Street  
Columbia, South Carolina 29201

Air Quality  
Local District Environmental Quality Control Office  
2475 DHEC Road  
Lancaster, SC 29720

Re: Permit TV-2440-0005  
York County  
AbitibiBowater Inc. – Catawba Operations  
Equipment ID 2723 (Lime Kiln)

AbitibiBowater plans to make the following change(s) pursuant to South Carolina Regulation 61-62.70.7(e)(2).

### **1. Brief description of change**

Modifications to the lime kiln to increase throughput and reduce the amount of purchased make-up lime required. See attached construction permit application for additional details.

### **2. The emissions resulting from the change**

The emissions increases associated with the proposed change are as follows:

<b>Pollutant</b>	<b>Actual-to-Projected Actual (tpy)</b>	<b>Actual-to-Potential (tpy)</b>	<b>PSD/NSR Threshold (tpy)</b>
TSP	1.1	4.7	25
PM <sub>10</sub>	1.0	4.2	15
PM <sub>2.5</sub>	0.8	3.2	10
SO <sub>2</sub>	1.2	5.0	40
NO <sub>x</sub>	7.7	32.1	40
CO	0.5	1.9	100
VOC	0.2	0.8	40
TRS/H <sub>2</sub> S	0.2	0.8	10

See attached construction permit application for additional details.

### **3. Any new applicable requirements that will apply if the change occurs**

There are no new applicable requirements as a result of the proposed change. The lime kiln is currently subject to 40 CFR Part 60, Subpart BB and 40 CFR Part 63, Subpart S. The emission increases from the proposed change are not subject to new source review regulations in South Carolina Standards No. 7 and No. 7.1. See attachment for additional discussion.

The proposed change does not require changing any current permit terms or conditions, including emission limits. The proposed project does not increase production of any emission unit above the current capacity. Therefore, no changes to the Title V permit or application forms are necessary.

The proposed change(s) at this facility meets the criteria for use of minor permit modification procedures and I request that such procedures be used. The modification does not violate any applicable requirement. The change is not a modification under Title I of the federal act. This is also a request for a construction permit.

Based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

Sincerely,

Mike Forrest  
Vice President and General Manager  
July 16, 2010

## **1.0 Facility Overview**

AbitibiBowater Inc. – Catawba Operations (AbitibiBowater) operates an integrated pulp and paper mill located in Catawba, York County, South Carolina. The facility consists of a bleached kraft pulp mill and a thermo-mechanical pulp mill. The facility manufactures coated paper and market pulp.

## **2.0 Project Description**

The lime kiln optimization project includes making several modifications to the lime kiln to optimize kiln operation and increase the efficiency of converting lime mud ( $\text{CaCO}_3$ ) into lime product ( $\text{CaO}$ ) when firing natural gas, and reduce purchased make-up lime usage at the facility. The modifications include changes to the burner management system to allow co-firing of natural gas and no. 6 fuel oil and adding an oxygen enrichment system.

The change in the burner management system does not involve any physical changes to the low- $\text{NO}_x$  burner installed in 2003. The only changes involve the control logic (software) to allow co-firing both natural gas and no. 6 fuel oil. The oxygen enrichment system will include installing an oxygen lance just above the lime bed at the dry end of the kiln, an oxygen storage tank, two oxygen mixers (which alternate service to allow thawing of ice build-up), and the associated piping.

These changes are not expected to increase kraft pulp production. Historically, the mill purchases fresh makeup lime to support the kraft pulp mill. This project is expected to increase lime kiln production to approximately 440 tons per day. This is below the current 465 ton per day capacity of the lime kiln, and will reduce the amount of purchased lime.

## **3.0 Applicable Regulations**

### **3.1 40 CFR Part 60, Subpart BB (Standards of Performance for Kraft Pulp Mills)**

The No. 2 lime kiln was constructed in 1994 and is currently subject to NSPS Subpart BB. The NSPS limits for particulate matter are 0.067 gr/dscf when using gaseous fossil fuel and 0.13 gr/dscf when using liquid fossil fuel. The TRS limit is 8 ppm. The No. 2 lime kiln currently meets all emission limits.

### **3.2 40 CFR Part 63, Subpart MM (National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry)**

The No. 2 lime kiln is regulated by 40 CFR Part 63, Subpart MM, which is the portion of the Cluster Rule regulating emissions from kraft mill chemical recovery operations. The MACT regulates emissions of  $\text{PM}_{\text{HAP}}$ . The MACT floor control for a lime kiln is an ESP or a wet scrubber. The No. 2 lime kiln has an ESP for particulate control.

The modifications to the No. 2 lime kiln have an estimated capital cost of approximately fifty-thousand dollars. The No. 2 lime kiln had a capital cost in excess of eighteen million dollars

when built in 1994. Therefore, the modifications are not a reconstruction as defined in 63.2, and the MACT standards for existing sources will apply to the No. 2 lime kiln following the modification.

The MACT standard for existing lime kilns is 0.064 gr/dscf, which the No. 2 lime kiln currently meets. The MACT does not establish gaseous HAP standards for existing lime kilns.

### 3.3 South Carolina Regulation 62.5, Standard No. 7 (Prevention of Significant Deterioration) and Standard No. 7.1 (Non-Attainment New Source Review)

AbitibiBowater is considered a major stationary source under New Source Review (NSR) since it emits or has the potential to emit 100 tons per year or more of a regulated NSR pollutant as defined in SC Reg. 61-62.5, Standard No. 7. The mill is located in the Charlotte-Gastonia-Rock Hill 8-hour ozone nonattainment area, and is subject to nonattainment NSR permitting requirements in SC Reg. 61-62.5, Standard No. 7.1 for the pollutants NO<sub>x</sub> and VOC.

The proposed project is not considered major modification if it will not cause a “significant emissions increase” of a regulated pollutant as defined in Standards No. 7 and No. 7.1.

The emission increases for the proposed project were calculated based on the actual-to-projected-actual applicability test outlined in 61-62.5, 7(a)(2)(c). In this test, a significant emissions increase is projected to occur if the sum of the difference between the projected actual emissions and the baseline actual emissions for each existing emissions unit equals or exceeds the significant amount for that pollutant. As allowed under the regulations, the emissions that the source could have accommodated prior to the proposed changes were excluded from the significant emission increase calculation.

The following formulae may be used for calculating the significant emission increase:

$$SEI = PAE - BAE - (CHAE - BAE)$$

where: SEI = significant emission increase

PAE = projected actual emissions

BAE = baseline actual emissions

CHAE = could have accommodated emissions

The emissions increase from the project was evaluated in the traditional actual-to-potential applicability test. As indicated by the significant emissions increase presented in Table 1, based on the calculations presented in Section 4, the proposed project is not a major modification using either applicability test.

Table 1  
NSR Applicability Evaluation

Emission Unit	Basis	VOC	CO	NO <sub>x</sub>	SO <sub>2</sub>	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	TRS (H <sub>2</sub> S)
		emissions tpy	emissions tpy	emissions tpy	emissions tpy	emissions tpy	emissions tpy	emissions tpy	emissions tpy
Lime Kiln	actual	3.69	8.92	147.80	23.01	21.82	19.17	14.71	3.49
Lime Kiln	accom.	4.06	9.81	162.50	25.29	23.99	21.08	16.17	3.83
Lime Kiln	projected	4.26	10.28	170.24	26.50	25.13	22.08	16.94	4.02
Lime Kiln	potential	4.50	10.86	179.91	28.00	26.56	23.34	17.91	4.24
<b>ACTUAL-to-PROJECTED ACTUAL</b>		<b>0.2</b>	<b>0.5</b>	<b>7.7</b>	<b>1.2</b>	<b>1.1</b>	<b>1.0</b>	<b>0.8</b>	<b>0.2</b>
<b>ACTUAL-to-POTENTIAL</b>		<b>0.8</b>	<b>1.9</b>	<b>32.1</b>	<b>5.0</b>	<b>4.7</b>	<b>4.2</b>	<b>3.2</b>	<b>0.8</b>
<b>NSR Threshold</b>		<b>40</b>	<b>100</b>	<b>40</b>	<b>40</b>	<b>25</b>	<b>15</b>	<b>10</b>	<b>10</b>

### 3.4 NO<sub>x</sub> Emissions

The lime kiln currently operates with a low-NO<sub>x</sub> burner installed in 2003. The BACT emission limit is 152 ppm.

The NO<sub>x</sub> emissions from lime kilns are dependant on the fuels fired and the operating conditions within the kiln. When firing natural gas, NO<sub>x</sub> formation in lime kilns is dominated by thermal NO<sub>x</sub>, which is formed at high combustion temperatures. When firing fuel oil, NO<sub>x</sub> formation is dominated by fuel NO<sub>x</sub>, which is dependant on the nitrogen content of the fuel oil.

The change in burner management software to allow co-firing of fuel oil with the natural gas will allow greater control of kiln operation. Source testing of the lime kiln demonstrates that NO<sub>x</sub> emissions are approximately thirty percent lower when fuel oil is fired, and CaO production is approximately 15% higher. This is due to the higher radiant heat transfer from the no. 6 oil, which burns hotter than natural gas, and transfers more thermal energy into the lime bed and leaves less thermal energy in the kiln gases to form NO<sub>x</sub>.

Date	Fuel	NO <sub>x</sub> (ppm @ 10% O <sub>2</sub> )	CaO Production (tons/day)
August 2004	No. 6 Oil	76	400
August 2005	No. 6 Oil	107	468
July 2007	No. 6 Oil	69	444
<b>Average</b>	<b>No. 6 Oil</b>	<b>84</b>	<b>438</b>
August 2008	Natural Gas	101	370
July 2009	Natural Gas	105	355
March 2010	Natural Gas	120	390
<b>Average</b>	<b>Natural Gas</b>	<b>109</b>	<b>372</b>

The oxygen enrichment lance will be installed between the main burner in the center of the kiln and the lime bed across the bottom of the kiln. This will increase the temperature immediately above the lime bed at the dry end of the kiln, increasing the radiant heat transfer into the lime bed and enhancing the lime mud conversion efficiency. The NO<sub>x</sub> emissions when natural gas is

being fired may increase if the stack oxygen content and stack temperature increase. The oxygen enrichment system may displace combustion air, lowering the amount of atmospheric nitrogen in the kiln available to form thermal NO<sub>x</sub> when natural gas is being fired.

### 3.5 South Carolina Regulation 62.70 (Title V)

AbitibiBowater is a Title V facility that is currently operating under permit number TV-2440-0005. The proposed changes to the AbitibiBowater facility qualify for processing under the minor modification procedures found in SC Regulation 61-62.70.7(e)(2). The future projected production rate and emissions are below all existing permit conditions and emission limits, therefore no existing permit conditions require any changes.

The lime kiln was included in the air dispersion modeling submitted in support of the 2005 Fiberline Optimization at a maximum production rate of 600 tons CaO per day. The proposed modifications to the lime kiln were not completed, and the emissions at the existing permitted production rate of 465 tons CaO per day are well below the emission rates demonstrating compliance with the NAAQS and PSD Air Quality Increments in the 2005 air dispersion modeling analysis listed in Attachment A of the Title V Operating Permit.

### 3.6 South Carolina Regulation 62.5, Standard No. 5.1 (State LAER)

The project is not subject to the South Carolina Lowest Achievable Emission Rate (LAER) regulation since VOC emissions increase will not exceed 100 tons since the baseline date (see Appendix D).

### 3.7 South Carolina Regulation 62.5, Standard No. 5.2 (NO<sub>x</sub> Control)

The project is not subject to the South Carolina NO<sub>x</sub> Control regulation since the lime kiln NO<sub>x</sub> emissions are currently subject to Standard No. 7, which is more restrictive.

### 3.8 South Carolina Regulation 62.5, Standard No. 8 (Air Toxics)

The lime kiln HAP emissions are regulated by MACT Subpart MM and are exempt from requirements in SC Standard No. 8, Toxic Air Pollutants.

## 4.0 Emission Calculations

The baseline actual emissions, projected actual emissions, the emissions each source could have accommodated, and the potential emissions were calculated using the production rates and emission factors described below.

### 4.1 Emission Factors

Emission factors from the National Council for Air and Stream Improvement (NCASI) were used to estimate emissions for all NSR pollutants, except where more representative site-specific emission factors were available. Emission factors and emission estimates for hazardous air pollutants can be found in Appendix A. Emission factors with the appropriate reference for each source are presented in Table 2.

Table 2  
Emission Factors

Pollutant	Emission Factor (lb/ton)	Reference
TSP	0.313	Site Specific – Dec. 5, 2005 Submittal
PM <sub>10</sub>	0.275	Site Specific – Adjusted for filterable PM <sub>10</sub> (69.6% of filt. TSP)
PM <sub>2.5</sub>	0.211	Site Specific – Adjusted for filterable PM <sub>2.5</sub> (18.6% of filt. TSP)
SO <sub>2</sub>	0.018	Site Specific – Dec. 5, 2005 Submittal
NO <sub>x</sub>	2.12	Site Specific – Dec. 5, 2005 Submittal
CO	0.128	Site Specific – Dec. 5, 2005 Submittal
VOC	0.023	NCASI TB 884
TRS/H <sub>2</sub> S	0.047	NCASI TB 884

The volatile organic compound (VOC) emission factors were adjusted from a carbon basis to “total VOC” following the same protocols used for the Title V Operating Permit Application. The VOC “as carbon” and the adjusted “total VOC” emission factors for each source are presented in Appendix B.

### 4.2 Production Rates

The production rates are based on the actual monthly average production, as shown in Appendix C. The baseline actual production is based on the 24-month average monthly production during the baseline period. The highest monthly average during the 24-month baseline period is the production that could have accommodated prior to the proposed changes.

The projected actual production is the expected production following the proposed changes. The projected actual production is approximately 440 tons per day, and the lime kiln has previously accommodated 420 tons per day. The design capacity of the lime kiln is 465 tons per day, which is the potential production.

A summary of the production rates are presented in Table 3.

Table 3  
Lime Kiln Production Rates

Emission Unit	Title V Equipment ID	Production Unit	Baseline Production		Accommodated Production		Projected Actual Production		Potential Production	
			tons/day	tons/yr	tons/day	tons/yr	tons/day	tons/yr	tons/day	tons/yr
Lime Kiln	2723	CaO	382	139,430	420	153,300	440	160,600	465	169,725

Notes: CaO = calcium oxide

#### 4.3 Baseline Actual Emissions (BAE)

Baseline actual emissions are based on the average rate at which the emissions units actually emitted the NSR pollutant over any consecutive 24-months during the past ten years (120 consecutive months) as defined in 61-62.5, 7(b)(4)(ii). This period corresponds to June 2006 through May 2008. The baseline actual emissions during this 24-month period shown in Table 4 are the product of the emission factor from Table 2 and the baseline production from Table 3.

Table 4  
Baseline Actual Emissions

Emission Unit	Basis	Production		VOC (as VOC)		CO		NO <sub>x</sub>		SO <sub>2</sub>		TSP		PM <sub>10</sub>		PM <sub>2.5</sub>		TRS (as H <sub>2</sub> S)	
		amount	units	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy
Lime Kiln	actual	382.0	ton CaO/day	0.053	3.69	0.128	8.92	2.12	147.80	0.33	23.01	0.313	21.82	0.275	19.17	0.211	14.71	0.05	3.49

#### 4.4 Could Have Accommodated Emissions (CHAE)

The could have accommodated emissions are based on the highest monthly average production during the 24-month baseline period and represent the operating rate the source was capable of achieving without consideration of the proposed modifications, as defined in 61-62.5, 7(b)(41)(ii)(c). The could have accommodated emissions shown in Table 6 are the product of the emission factor from Table 2 and the accommodated production from Table 3.

Table 5  
Could Have Accommodated Emissions

Emission Unit	Basis	Production		VOC (as VOC)		CO		NO <sub>x</sub>		SO <sub>2</sub>		TSP		PM <sub>10</sub>		PM <sub>2.5</sub>		TRS (as H <sub>2</sub> S)	
		amount	units	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy
Lime Kiln	accom	420.0	ton CaO/day	0.053	4.06	0.128	9.81	2.12	162.50	0.33	25.29	0.313	23.99	0.275	21.08	0.211	16.17	0.05	3.83

#### 4.5 Projected Actual Emissions (PAE)

The projected actual emissions are based on the projected production rates following the proposed changes as defined in 61-62.5, 7(b)(41)(i). The projected actual emissions shown in



Table 5 are the product of the emission factor from Table 2 and the projected production from Table 3.

Table 6  
Projected Actual Emissions

Emission Unit	Basis	Production		VOC (as VOC)		CO		NO <sub>x</sub>		SO <sub>2</sub>		TSP		PM <sub>10</sub>		PM <sub>2.5</sub>		TRS (as H <sub>2</sub> S)	
		amount	units	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy
Lime Kiln	projected	440.0	ton CaO/day	0.053	4.26	0.128	10.28	2.12	170.24	0.33	26.50	0.313	25.13	0.275	22.08	0.211	16.94	0.05	4.02

#### 4.6 Potential-to-Emit Emissions (PTE)

The potential emissions are based on the design capacity of the lime kiln, as defined in 61-62.5,7(b)(37). The potential emissions shown in Table 7 are the product of the emission factor from Table 2 and the accommodated production from Table 3.

Table 7  
Potential Emissions

Emission Unit	Basis	Production		VOC (as VOC)		CO		NO <sub>x</sub>		SO <sub>2</sub>		TSP		PM <sub>10</sub>		PM <sub>2.5</sub>		TRS (as H <sub>2</sub> S)	
		amount	units	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy	factor lb/ton	emissions tpy
Lime Kiln	potential	465.0	ton CaO/day	0.053	4.50	0.128	10.86	2.12	179.91	0.33	28.00	0.313	26.56	0.275	23.34	0.211	17.91	0.05	4.24

Construction Permit Application and Title V Minor Modification Request  
AbitibiBowater Inc. – Catawba Operations  
Lime Kiln Optimization Project

## Appendix A HAP Emission Factors

PROCESS EMISSION SOURCE	PRODUCTION UNITS	BASELINE PRODUCTION	ACCOM. PRODUCTION	PROJECTED PRODUCTION	POTENTIAL PRODUCTION
Lime Kiln 2	Ton CaO/Day	382	420	440	465

POLLUTANT	EMISSION FACTOR INFORMATION	PROCESS VARIABILITY FACTOR	BASELINE EMISSIONS (lb/hr)	BASELINE EMISSIONS (tons/yr)	ACCOM. EMISSIONS (lb/hr)	ACCOM. EMISSIONS (tons/yr)	PROJECTED EMISSIONS (lb/hr)	PROJECTED EMISSIONS (tons/yr)	POTENTIAL EMISSIONS (lb/hr)	POTENTIAL EMISSIONS (tons/yr)
Particulate matter	3.13E-01 #/T CaO H	1	4.98	21.82	5.48	23.99	5.74	25.13	6.06	26.56
Particulate matter < 10 microns	2.76E-01 #/T CaO G	1	4.38	19.17	4.81	21.08	5.04	22.08	5.33	23.34
Particulate matter < 2.5 microns	2.11E-01 #/T CaO G	1	3.36	14.73	3.70	16.19	3.87	16.96	4.09	17.93
Sulfur dioxide	3.30E-01 #/T CaO H	1	5.25	23.01	5.78	25.29	6.05	26.50	6.39	28.00
Volatile organic compounds (as carbon)	2.30E-02 #/T CaO H	1	0.37	1.60	0.40	1.76	0.42	1.85	0.45	1.95
Volatile organic compounds (as VOC)	5.30E-02 #/T CaO I	1	0.84	3.69	0.93	4.06	0.97	4.26	1.03	4.50
Carbon monoxide	1.28E-01 #/T CaO H	1	2.04	8.92	2.24	9.81	2.35	10.28	2.48	10.86
Lead	1.50E-05 #/T CaO B	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nitrogen oxides	2.12E+00 #/T CaO H	1	33.74	147.80	37.10	162.50	38.07	170.24	41.08	179.91
Sulfuric acid mist	6.80E-07 #/T CaO A	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrogen Sulfide	5.0E-02 #/T CaO A	1	0.80	3.49	0.88	3.83	0.92	4.02	0.97	4.24
Total Reduced Sulfur (as TRS)	5.0E-02 #/T CaO C	1	0.80	3.49	0.88	3.83	0.92	4.02	0.97	4.25
Total Reduced Sulfur (as Sulfur)	4.7E-02 #/T CaO A	1	0.75	3.28	0.82	3.60	0.86	3.77	0.91	3.99
Total Reduced Sulfur (as Hydrogen Sulfide)	5.0E-02 #/T CaO D	1	0.79	3.48	0.87	3.83	0.92	4.01	0.97	4.24
Total 112(b) Hazardous Air Pollutants			1.35	5.92	1.49	6.51	1.56	6.82	1.65	7.21
1,1,1-Trichloroethane	8.00E-05 #/T CaO A	1	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
1,1,2-Trichloroethane	3.80E-04 #/T CaO A	1	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03
1,2-Dichloroethane	3.70E-04 #/T CaO A	1	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03
1,2,4-Trichlorobenzene	1.30E-04 #/T CaO A	1	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Acetaldehyde	9.60E-04 #/T CaO A	1	0.02	0.07	0.02	0.07	0.02	0.08	0.02	0.08
Acetophenone	5.50E-03 #/T CaO A	1	0.09	0.38	0.10	0.42	0.10	0.44	0.11	0.47
Acrolein	2.10E-05 #/T CaO A	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Antimony Compounds	1.50E-06 #/T CaO B	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic Compounds	5.40E-07 #/T CaO B	1.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzene	3.30E-04 #/T CaO A	1	0.01	0.02	0.01	0.03	0.01	0.03	0.01	0.03
Beryllium Compounds	2.60E-06 #/T CaO B	2.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bromomethane	1.60E-04 #/T CaO A	1	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Cadmium Compounds	1.10E-05 #/T CaO B	1.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carbon disulfide	2.90E-04 #/T CaO A	1	0.00	0.02	0.01	0.02	0.01	0.02	0.01	0.02
Carbon tetrachloride	1.50E-03 #/T CaO A	1	0.02	0.10	0.03	0.11	0.03	0.12	0.03	0.13
Carbonyl sulfide	3.90E-03 #/T CaO A	1	0.06	0.27	0.07	0.30	0.07	0.31	0.08	0.33
Chlorobenzene	1.10E-05 #/T CaO A	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chloroform	3.60E-06 #/T CaO A	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chloromethane	1.70E-03 #/T CaO A	1	0.03	0.12	0.03	0.13	0.03	0.14	0.03	0.14
Chromium Compounds	3.30E-05 #/T CaO B	1.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cobalt Compounds	7.70E-06 #/T CaO B	1.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumene	5.50E-03 #/T CaO A	1	0.09	0.38	0.10	0.42	0.10	0.44	0.11	0.47
Ethylbenzene	3.00E-03 #/T CaO A	1	0.05	0.21	0.05	0.23	0.06	0.24	0.06	0.25
Formaldehyde	1.50E-03 #/T CaO A	1	0.02	0.10	0.03	0.11	0.03	0.12	0.03	0.13
Hexachlorocyclopentadiene	1.20E-02 #/T CaO A	1	0.19	0.84	0.21	0.92	0.22	0.96	0.23	1.02
Hexachloroethane	1.00E-02 #/T CaO A	1	0.16	0.70	0.18	0.77	0.18	0.80	0.19	0.85
Hydrochloric acid	2.10E-04 #/T CaO A	1	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
Lead Compounds	1.50E-05 #/T CaO B	1.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manganese Compounds	3.30E-05 #/T CaO B	1.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
m-Cresol	9.50E-03 #/T CaO A	1	0.15	0.66	0.17	0.73	0.17	0.76	0.18	0.81
Mercury Compounds	3.00E-08 #/T CaO B	1.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Methanol	8.00E-03 #/T CaO A	1	0.13	0.56	0.14	0.61	0.15	0.64	0.16	0.68
Methyl ethyl ketone	4.30E-05 #/T CaO A	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Methyl isobutyl ketone	2.00E-04 #/T CaO A	1	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
Methylene chloride	4.20E-06 #/T CaO A	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
m-Xylene	6.80E-06 #/T CaO A	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Naphthalene	1.30E-02 #/T CaO A	1	0.21	0.91	0.23	1.00	0.24	1.04	0.25	1.10
n-Hexane	2.10E-05 #/T CaO A	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel Compounds	4.10E-05 #/T CaO B	1.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
o-Cresol	4.70E-03 #/T CaO A	1	0.07	0.33	0.08	0.36	0.09	0.38	0.09	0.40
o-Xylene	2.10E-04 #/T CaO A	1	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.02
Phenol	2.70E-04 #/T CaO A	1	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
Phosphorus	5.00E-04 #/T CaO B	1	0.01	0.03	0.01	0.04	0.01	0.04	0.01	0.04
p-Xylene	6.80E-06 #/T CaO A	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Selenium Compounds	2.80E-07 #/T CaO B	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	5.70E-05 #/T CaO A	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tetrachloroethylene	2.80E-04 #/T CaO A	1	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02
Toluene	1.50E-05 #/T CaO A	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trichloroethylene	3.70E-04 #/T CaO A	1	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03
Vinyl acetate	8.00E-05 #/T CaO A	1	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01

### REFERENCES:

- Emission factors from NCASI Technical Bulletin 858, Table 16A.
- Emission factors from NCASI Technical Bulletin 858, Table 16B.
- Sum of dimethyl disulfide, dimethyl sulfide, hydrogen sulfide, and methyl mercaptan emissions.
- Assumed TRS (as S) converted to H<sub>2</sub>S based on molecular weight.
- Emission factor from NCASI Technical Bulletin 884, Table 4.13 - Oil-fired Lime Kiln with ESP.
- Emission factors from NCASI Technical Bulletin 884, Table 4.13 (filterable + condensable) - Oil-fired Lime kiln with ESP.
- Percentage of total particulate matter from NCASI Technical Bulletin 884, Table 4.13 - Oil-fired Lime Kiln with ESP - PM10 (69.6%), PM2.5 (18.6%).
- Emission factor from December 8, 2005 letter to DHEC.
- Emission factor adjusted from VOC as carbon to total VOC based on molecular weight of predominate VOC species.

### NOTES:

Emission factor of zero (0.00E+00) indicates pollutant was tested for and not detected above quantitation limit.  
Total reduced sulfur emission are the sum of emissions of hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide.  
Process variability factors for metal compounds assume conversion of elemental metal to lowest state metal oxide, except HF.

## Appendix B Total VOC Emission Factors

### Lime Kiln

Significant VOC Chemicals	Formula	Molecular Weight	Carbon Weight	Ratio of Total to C	TB 858 Emission Factor	Percent of Total	TB 884 VOC Factor	Adjusted Emission Factor
cumene	C9H12	120	108	1.11	5.5E-03	4.7%	2.30E-02	-1.2E-03
m-cresol	C7H8O	108	84	1.29	9.5E-03	8.1%	2.30E-02	2.4E-03
o-cresol	C7H8O	108	84	1.29	4.7E-03	4.0%	2.30E-02	1.2E-03
ethyl benzene	C8H10	106	96	1.10	3.0E-03	2.6%	2.30E-02	6.5E-04
hexachlorocyclopentadiene	C5Cl6	273	60	4.55	1.2E-02	10.2%	2.30E-02	1.1E-02
hexachloroethane	C2Cl6	237	24	9.88	1.0E-02	8.5%	2.30E-02	1.9E-02
acetophenone	C8H8O	120	96	1.25	5.5E-03	4.7%	2.30E-02	1.3E-03
carbonyl sulfide	COS	60	12	5.00	3.9E-03	3.3%	2.30E-02	3.8E-03
carbon tetrachloride	CCl4	154	12	12.83	1.5E-03	1.3%	2.30E-02	3.8E-03
3-carene	C10H16	136	120	1.13	1.1E-02	9.4%	2.30E-02	2.4E-03
benzaldehyde	C7H6O	106	84	1.26	5.5E-03	4.7%	2.30E-02	1.4E-03
alpha-terpinol	C10H16	136	120	1.13	3.0E-03	2.6%	2.30E-02	6.7E-04
chloromethane	CH3Cl	50.5	12	4.21	1.7E-03	1.4%	2.30E-02	1.4E-03
ethanol	C2H6O	46	24	1.92	1.1E-02	9.4%	2.30E-02	-4.1E-03
methanol	CH3OH	32	12	2.67	8.0E-03	6.8%	2.30E-02	4.2E-03
naphthalene	C10H8	128	120	1.07	1.3E-02	11.1%	2.30E-02	2.7E-03
terpenes	C10H16	136	120	1.13	7.1E-03	6.0%	2.30E-02	1.6E-03
formaldehyde	HCOH	30	12	2.50	1.5E-03	1.3%	2.30E-02	7.3E-04
Total VOC's					1.2E-01	100.0%		5.3E-02

Appendix C  
Monthly Production Rates

DATE	LIME KILN CaO (tons/day)
June-06	392
July-06	393
August-06	404
September-06	389
October-06	395
November-06	354
December-06	333
January-07	392
February-07	414
March-07	400
April-07	379
May-07	216
June-07	397
July-07	362
August-07	381
September-07	402
October-07	397
November-07	390
December-07	361
January-08	420
February-08	398
March-08	386
April-08	407
May-08	400
<b>Average</b>	<b>382</b>
<b>Maximum</b>	<b>420</b>

Appendix D  
SC LAER Applicability (Std 5.1)

South Carolina Lowest Achievable Emission Rate (LAER) Analysis			
Date	Activity	Change in Emissions	Net Change in Emissions
1978	Baseline	n/a	0
1979 - 1982	No Changes	0	0
1983	No. 1 Recovery Furnace Converted to Power Boiler and New No. 3 Recovery Furnace	15	15
1984	TRS System	-41	-26
1985	No. 2 Recovery Furnace Converted to NDCE	-15	-41
	No. 10 Digester (vents to Combination Boilers)	0	-41
1986	Groundwood & Old TMP Replaced by New TMP and No. 2 Paper Machine	-80	-121
1987	No Changes	0	-121
1988	No. 1 Holding Basin Pump No. 1	3	-118
1989 - 1994	No Changes	0	-118
1995	No. 1 Lime Kiln Replaced by No. 2 Lime Kiln	1	-117
1996	No Changes	0	-117
1997	Chlorine Dioxide Plant Modifications	0	-117
1998	No Changes	0	-117
1999	Condensate Collection Tank	0	-117
	Pulp Dryer Booster Oven	7	-110
	No. 1 Holding Basin Pump No. 2	4	-106
2000	Air Make-up Units	2	-104
	LVHC System Replacement and Condensate Steam Stripper	-404	-508
2001	Kraft Mill Replaced by New Fiberline and No. 3 Paper Machine Conversion	7	-501
	Aerated Stabilization Basin Pumps	4	-497
	Tertiary Treatment Plant Pumps	4	-493
2002	New Wet-End Starch System	1	-492
2003	No Changes	0	-492
2004	No. 3 Recovery Furnace	1	-491
	TMP Bleaching System	12	-479
2005	New Fiberline Optimization	25	-454
	White Liquor Storage Tank	17	-437
2006	Polyvinyl Alcohol Storage Tanks	37.5	-400
2007	CIO2 Plant Filtrate Separation and Recovery System	0.44	-399
2010	Lime Kiln Optimization	0.8	-398

## Appendix E Facility-wide Emissions

POLLUTANT	CAS #	Maximum Emissions TPY	2009 Actual Emissions TPY
Particulate matter		3,619.18	625.33
Particulate matter < 10 microns		2,639.63	415.24
Particulate matter < 2.5 microns		2,203.15	327.38
Sulfur dioxide	7446095	27,148.25	2,755.09
Volatile organic compounds (as carbon)		838.94	516.33
Volatile organic compounds (as VOC)		1,524.97	1,085.24
Carbon monoxide		4,315.79	2,364.67
Lead		0.72	0.18
Nitrogen oxides		3,666.62	1,476.87
Sulfuric acid mist	7664939	923.90	25.02
Hydrogen Sulfide		22.79	18.94
Total Reduced Sulfur (as TRS)		193.65	193.14
Total Reduced Sulfur (as Sulfur)		129.87	117.42
Total Reduced Sulfur (as Hydrogen Sulfide)		137.99	124.76
Total 112(b) Hazardous Air Pollutants		1,078.16	838.08
1,1,1-Trichloroethane	71556	0.57	0.41
1,1-Dichloroethane	75343	0.00	0.00
1,1-Dichloroethene	75354	0.00	0.00
1,1,2-Trichloroethane	79005	0.90	0.60
1,2-Dichloroethane	107062	0.60	0.42
1,2-Dichloropropane	78875	0.13	0.07
1,2-Dimethoxyethane		0.24	0.13
1,2,4-Trichlorobenzene	120821	3.90	3.20
1,4-Dichlorobenzene	106467	0.00	0.00
2-Chloroacetophenone		0.00	0.00
2-Chlorophenol		0.00	0.00
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746016	0.00	0.00
2,4-Dinitrophenol		0.00	0.00
2,4-Dinitrotoluene		0.00	0.00
2,4,6-Trichlorophenol		0.00	0.00
4-Nitrophenol		0.00	0.00
Acetaldehyde	75070	29.11	24.34
Acetophenone	98862	7.98	6.40
Acrolein	107028	0.69	0.48
Acrylonitrile	107131	0.00	0.00
Aniline	62533	0.00	0.00
Antimony Compounds		0.40	0.01
Arsenic Compounds		0.35	0.04
Benzene	71432	2.23	1.26
Benzyl chloride		0.00	0.00
Beryllium Compounds		0.02	0.00
Biphenyl		3.96	2.49
Bis(2-ethylhexyl)phthalate	117817	0.01	0.00
Bromoform		0.00	0.00
Bromomethane	74839	0.08	0.05
Cadmium Compounds		0.36	0.02
Carbon disulfide	75150	8.47	6.22
Carbon tetrachloride	56235	0.73	0.56
Carbonyl sulfide	463581	0.48	0.35
Catechol	120809	0.00	0.00
Chlorine	7782505	22.09	0.57

Construction Permit Application and Title V Minor Modification Request  
AbitibiBowater Inc. – Catawba Operations  
Lime Kiln Optimization Project

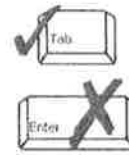
POLLUTANT	CAS #	Maximum Emissions TPY	2009 Actual Emissions TPY
Chlorobenzene	108907	0.38	0.31
Chloroform	67663	24.63	20.06
Chloromethane	74873	0.35	0.22
Chromium Compounds		0.09	0.02
Chromium(+6) Compounds		0.05	0.03
Cobalt Compounds		0.48	0.01
Cresols	1319773	0.00	0.00
Cumene	98828	13.76	9.71
Cyanide Compounds		0.00	0.00
Dibenzofuran	132649	0.00	0.00
Diethanolamine	111422	0.00	0.00
Dimethyl phthalate	131113	0.00	0.00
Dimethyl sulfate		0.00	0.00
Ethylbenzene	100414	7.81	6.27
Ethyl chloride		0.00	0.00
Ethylene dibromide		0.00	0.00
Formaldehyde	50000	10.32	6.55
Glycol Ethers		0.00	0.00
Hexachlorobenzene		0.00	0.00
Hexachlorocyclopentadiene	77474	1.53	1.13
Hexachloroethane	67721	3.09	2.42
Hydrochloric acid	7647010	106.57	54.03
Hydrofluoric acid	7664393	2.47	0.04
Iodomethane	74884	0.00	0.00
Isophorone	78591	0.00	0.00
Lead Compounds		0.78	0.19
Manganese Compounds		0.59	0.27
m-Cresol	108394	2.26	1.75
Mercury Compounds		0.63	0.01
Methanol	67561	788.08	655.03
Methyl ethyl ketone	78933	3.07	2.60
Methyl isobutyl ketone	108101	1.60	1.34
Methyl hydrazine		0.00	0.00
Methyl methacrylate		0.00	0.00
Methyl tert butyl ether		0.00	0.00
Methylene chloride	75092	2.58	1.72
m-Xylene	108383	0.36	0.29
Naphthalene	91203	2.42	1.57
n-Hexane		17.12	1.44
Nickel Compounds		12.75	0.24
o-Cresol	95487	9.17	7.38
o-Xylene	95476	0.51	0.42
p-Cresol	106445	0.08	0.07
Pentachlorophenol		0.00	0.00
Phenol	108952	9.03	6.67
Phosphorus	7723140	0.73	0.35
Polycyclic organic matter		0.08	0.00
Propionaldehyde	123386	6.30	4.30
p-Xylene	106423	0.36	0.29
Selenium Compounds		0.19	0.02
Styrene	100425	1.35	1.10
Tetrachloroethylene	127184	1.51	1.22
Toluene	108883	1.12	0.53
Trichloroethylene	79016	0.52	0.39
Vinyl acetate	108054	0.03	0.03
Vinyl chloride		0.07	0.04
Xylenes	1330207	0.47	0.41

Appendix F  
Construction Permit Application Forms





**Expedited Review Request  
Bureau of Air Quality  
Construction Permits**



To be eligible for expedited review, the appropriate Part I and Part II Construction Permit Application Forms must be included with this sheet. Please attach this sheet to the top of the Part I form.

Facility Information	
Facility Name: Bowater Coated Paper Division	
Existing Air Permit Number (if applicable): TV-2440-0005	
Primary Permit Contact: Dale Herendeen	
Contact Phone No.: (803) 981 - 8009	Alternate Phone No.:
Contact E-mail Address: dale.herendeen@abitiabowater.com	
Date Submitted: July 16, 2010	

**Applying for which type of permit?**

Check One	Permit Type	Fee*
<input checked="" type="checkbox"/>	Minor Source Construction Permit	\$3,000
<input type="checkbox"/>	Synthetic Minor Construction Permit	\$4,000
<input type="checkbox"/>	Prevention of Significant Deterioration (PSD) not impacting a Class I Area (no Class I modeling required)	\$20,000
<input type="checkbox"/>	Prevention of Significant Deterioration (PSD) impacting a Class I Area (Class I modeling required)	\$25,000
General Permit Program		
<input type="checkbox"/>	Minor Source Construction Permit - Concrete Batch	\$1,500
<input type="checkbox"/>	Minor Source Construction Permit - Hot Mix Asphalt Plant	\$2,000
<input type="checkbox"/>	Synthetic Minor Construction Permit - Concrete Batch	\$3,000
<input type="checkbox"/>	Synthetic Minor Construction Permit - Hot Mix Asphalt Plant	\$3,500

\*Do not send fee payment with this form. If chosen for expedited review, you will be notified by phone for verbal acceptance into the program. Fees must be paid via check within five (5) business days of acceptance.

If the Department is unable to contact me, please contact Will Hinson  
at (803) 981 - 8759.

I have read the Expedited Review Program Standard Operating Procedures and accept all of the terms and conditions within. I understand that it is my responsibility to ensure an application of the highest quality is submitted in a timely manner, and to address any requests for additional information by the deadline specified. I understand that submittal of this request form is not a guarantee that expedited review will be granted.

_____ Signature of Primary Permit Contact**	_____ Date
_____ Dale Herendeen	_____ Environmental Manager
_____ Printed Name of Primary Permit Contact**	_____ Title/Position

\*\*The permit is issued to the primary contact.



**Bureau of Air Quality  
Construction Permit Application**

**Part I**

**Page 1 of 3**

**Please Refer to Instructions Before Completing This Form**



FACILITY INFORMATION			
<b>1. Facility Name:</b> Bowater Coated Paper Division		<b>2. Existing Air Permit Number (if applicable):</b> 2440 - 0005	
Federal Identification No. :		Are you a small business? <input type="checkbox"/> Y <input type="checkbox"/> N	
<b>3. Physical Address:</b> 5300 Cureton Ferry Road		Primary SIC or NAICS Code: 2611	
City: Catawba		County York	Zip Code: 29704
<b>4. Mailing Address (if different):</b> PO Box 7			
City: Catawba		State: SC	Zip Code: 29704
<b>5. Facility/Operator Contact:</b> Mr. Dale Herendeen		Are you the primary permit contact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Mailing Address (if different): same			
City:		State:	Zip Code:
Phone No. (803) 981 - 8009	Fax No. ( ) -	E-mail Address: dale.herendeen@abitibibowater.com	
COMPANY INFORMATION			
<b>6. Company Name:</b> Same			
Mailing Address (if different):			
City:		State:	Zip Code:
<b>7. Owner/Agent Contact:</b>		Are you the primary permit contact? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Mailing Address (if different):			
City:		State:	Zip Code:
Phone No. ( ) -	Fax No. ( ) -	E-mail Address:	
CORPORATE/CONSULTANT - ENVIRONMENTAL CONTACT INFORMATION			
<b>8. Name:</b> Steven Moore		Firm (if applicable): URS Corporation	
Mailing Address: 11 Brendan Way		Are you the primary permit contact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
City: Greenville		State: SC	Zip Code: 29615
Phone No. (864) 527 - 4734	Fax No. (864) 609 - 9069	E-mail Address: steven_moore@urscorp.com	
FACILITY OPERATING PERMIT STATUS			
<b>9. Facility Air Operating Permit Status:</b> <input type="checkbox"/> State Minor <input type="checkbox"/> General Conditional Major <input type="checkbox"/> Conditional Major <input checked="" type="checkbox"/> Title V			
Will this project result in a change in the Facility Air Operating Permit Status? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If yes, status after project completion:			
<b>10. NSR Status Before Project:</b> <input type="checkbox"/> Minor Source <input checked="" type="checkbox"/> PSD Major Source <input checked="" type="checkbox"/> NSR Major Source (Non-Attainment Area)			
Will this project result in a change in the Facility NSR Status? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If yes, status after project completion:			
PURPOSE OF APPLICATION			
<b>11. Brief Narrative of Project:</b> Modifications to the lime kiln to increase throughput and reduce the amount of purchased make-up lime required.			
<b>12. Permit Application Type:</b> <input type="checkbox"/> New Facility <input type="checkbox"/> New Source at Existing Facility <input type="checkbox"/> Unpermitted Existing Source			
<input checked="" type="checkbox"/> Modify Existing Source		Permit No. (i.e., CA, CB): DA	Date Issued: 3/16/2006
<input type="checkbox"/> Permit Revision			
Does this application contain confidential data? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, mark all confidential material appropriately.			
Are you requesting this application be eligible for expedited review pilot program? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
SIGNATURES			
I certify, to the best of my knowledge and belief, that no applicable standards and/or regulations will be contravened or violated. I certify that any application form, report, or compliance certification submitted in this permit application is true, accurate, and complete based on information and belief formed after reasonable inquiry. I understand that any statements and/or descriptions, which are found to be incorrect, may result in the immediate revocation of any permit issued for this application.			
<b>13. Owner or Operator Signature</b>		<b>Title/Position</b>	<b>Date</b>
I have placed my signature and seal on the engineering documents submitted, signifying that I have reviewed this application as it pertains to DHEC Air Pollution Regulation 61-62.			
<b>14. Professional Engineer Signature</b>		<b>SC License/Registration No.</b>	<b>Date</b>
Michael W. Sowell		10561	7/16/10



# Bureau of Air Quality Construction Permit Application

## Part I

Page 2 of 3

Please Refer to Instructions Before Completing This Form

EMISSIONS SUMMARY AT MAXIMUM DESIGN CAPACITY					
Pollutant	15. Prior to Construction/Modification		16. After Construction/Modification		
	Uncontrolled (tons/year)	Controlled (tons/year)	Uncontrolled (tons/year)	Controlled (tons/year)	
Particulate Matter (PM)	361,900	3,619	361,900	3,619	
Particulate Matter < 10 Micron (PM <sub>10</sub> )	264,000	2,640	264,000	2,640	
Particulate Matter < 2.5 Micron (PM <sub>2.5</sub> )	220,300	2,203	220,300	2,203	
Sulfur Dioxide (SO <sub>2</sub> )	27,148	27,148	27,148	27,148	
Carbon Monoxide (CO)	4,316	4,316	4,316	4,316	
Nitrogen Oxides (NO <sub>x</sub> )	3,667	3,667	3,667	3,667	
Volatile Organic Compounds (VOCs)	76,250	1,525	76,250	1,525	
Hazardous Air Pollutant – Single Greatest	39,400	788	39,400	788	
Hazardous Air Pollutants – Total	53,900	1,078	53,900	1,078	

PROJECT REGULATORY APPLICABILITY REVIEW				
Regulation	Applicable		General Reason Indicator(s)	Comments
	Yes	No		
<b>17. South Carolina Regulation 61-62 - Air Pollution Control Regulations and Standards (PROJECT ONLY)</b>				
Standard 1: Fuel Burning Operations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	C	
Standard 2: Ambient Air Quality Standards	<input type="checkbox"/>	<input checked="" type="checkbox"/>	H	TV App. A modeled emission rates higher
Standard 3: Waste Combustion/Reduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	K	
Standard 3.1: HMI Waste Incinerators	<input type="checkbox"/>	<input checked="" type="checkbox"/>	K	
Standard 4: Emissions from Process Industries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	L	No changes to current permit requirement
Standard 5: Volatile Organic Compounds	<input type="checkbox"/>	<input checked="" type="checkbox"/>	B	
Standard 5.1: BACT/LAER For VOCs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	H	Project not subject to 5.1
Standard 5.2: Control of Oxides of Nitrogen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	H	Source operates NO <sub>x</sub> controls
Standard 7: Prevention of Significant Deterioration	<input type="checkbox"/>	<input checked="" type="checkbox"/>	H	Project emissions not subject to 7
Standard 7(II): Minor Source Increment Analysis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	H	TV App. A modeled emission rates higher
Standard 7.1: Standards for Non Attainment Areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	H	Project emissions not subject to 7.1
Standard 8: Toxic Air Pollutants	<input type="checkbox"/>	<input checked="" type="checkbox"/>	H	Project exempt from 8 (MACT Source)
Regulation 61-62.6: Control of Fugitive Particulate Matter	<input type="checkbox"/>	<input checked="" type="checkbox"/>	B	
Regulation 61-62.63: National Emission Standards For Hazardous Air Pollutants (NESHAP) For Source Categories	<input checked="" type="checkbox"/>	<input type="checkbox"/>	L	No changes to current permit requirement
Regulation 61-62.68: Chemical Accident Prevention	<input type="checkbox"/>	<input checked="" type="checkbox"/>	B	
Regulation 61-62.72: Acid Rain	<input type="checkbox"/>	<input checked="" type="checkbox"/>	B	
Regulation 61-62.96: Nitrogen Oxides (NO <sub>x</sub> ) Budget Trading Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>	B	
Regulation 61-62.99: Nitrogen Oxides (NO <sub>x</sub> ) Budget Program Requirements for Stationary Sources Not In the Trading Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>	B	
Other	<input type="checkbox"/>	<input type="checkbox"/>		
<b>18. Federal Regulations (PROJECT ONLY)</b>				
NSPS (Part 60) Subpart(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	L	No changes to current permit requirement
NESHAP (Part 61) Subpart(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	B	
MACT (Part 63) Subpart(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	L	No changes to current permit requirement
Compliance Assurance Monitoring (CAM) (Part 64)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	L	No changes to current permit requirement
Other	<input type="checkbox"/>	<input type="checkbox"/>		



**Bureau of Air Quality**  
**Construction Permit Application**  
**Part I**  
**Page 3 of 3**

Please Refer to Instructions Before Completing This Form

<b>19. PART II FORMS – Indicate the number of applicable Part II Form(s) attached</b>	
Fuel Burning Source Construction Permit Applications (Part IIA)	0
Process Source Construction Permit Applications (Part IIB)	1
Incinerator Applications (Part IIC)	0
Asphalt Plant Applications (Part IID)	0
Dry Cleaner Applications (Part IIE)	0
Concrete Batch Plant Permit Applications (Part IIF)	0
Storage Vessel Permit Applications (Part IIG/Part IIGa)	0

**20. APPLICATION CHECKLIST**

The following items must be submitted in accordance with S.C. Regulation 61-62.1, Section II(C)(3) to be considered complete. Be sure to check all items included in the application.

Included	N/A	Item Description	Last Submitted	BAQ Verify (Office Use Only)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A. A description of the facility's proposed new or altered processes, including the physical and chemical properties and feed rate of the materials used and produced (in pounds per hour), from which the facility determined potential emissions		<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	B. Scaled plot plan of the facility clearly showing property boundaries, stack and building locations, and indicating true north	8/26/2005	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	C. Detailed narrative description of the project including the full scope of the project (each source installed or altered, associated control equipment, how the project affects other sources and their emissions, flow diagram/schematic of the process including all input and output streams)		<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	D. Project Total Emissions (Uncontrolled potential and Controlled). Attach all calculations including equations, emission factors, assumptions, and references used to estimate emissions		<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	E. Regulatory applicability determination (including all emission limitations, monitoring, record keeping, reporting) associated with the new or altered source(s)		<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	F. Air Dispersion Modeling Questionnaire(s) for each new or altered emission point	8/26/2005	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	G. Facility-Wide Air Dispersion Modeling Analysis (see Air Dispersion Modeling Guidelines for further information)	8/26/2005	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	H. Description and estimate of fugitive emissions for the project		<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	I. A description of all air pollution control devices or systems on the new or altered source(s), whether inherent or add-on		<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	J. Confidential information must be properly marked and claimed under a separate cover and copies of the application suitable for public inspection must also be submitted		<input type="checkbox"/>

The following items should be submitted, if applicable, in accordance with other S.C. and Federal regulations. Be sure to check all items included in the application.

Included	N/A	Item Description	Last Submitted	BAQ Verify (Office Use Only)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	K. Any reasonably anticipated operating scenarios for the project		<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	L. Provide all emission data (actual emissions, baseline actual emissions, netting, etc.) needed to make applicability determinations for BACT/LAER (SC Regulation 61-62.5, Standard 5.1)		<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	M. If BACT/LAER is applicable above, attach an appropriate BACT/LAER analysis		<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	N. All emission data (actual emissions, baseline actual emissions, netting, etc.) needed to make applicability determinations for PSD and non-attainment NSR (SC Regulation 61-62.5, Standards 7 & 7.1)		<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	O. If PSD or NSR is applicable above, attach an appropriate BACT/LAER analysis		<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	P. CAM plan, if applicable	3/30/2004	<input type="checkbox"/>







**Bureau of Air Quality**  
**Construction Permit Application**  
**Part IIB: Process Source**  
**Page 2 of 3**

Please Refer to Instructions Before Completing This Form

<b>Unit ID: 07</b>		<b>Permit Number: TV-2440-0005</b>		<b>File Name: Bowater Lime Kiln App.pdf</b>			
<b>6. FUEL DATA (Include All Fuels)</b>							
Process/ Equipment ID	Fuel Type and Grade	BTU Content	% Sulfur by Weight	% Ash by Weight	Consumption @ Rated Capacity (Units)		
2723	No. 6 Fuel Oil	150,000	2.5	0.1%	940 gal. per hour		
2723	Natural Gas	1,050	nil	nil	134,286 cf per hour		
<b>7. EMISSION RATES AT MAXIMUM RATED CAPACITY</b>							
Process/ Equipment ID	Pollutant	CAS Number	HAP, TAP, or Both	Uncontrolled (tons/year)	Controlled (tons/year)	Calculation Method	
2723	HAP	App. A	App. A	App. A	App. A	App. A	
2723	TAP	App. A	App. A	App. A	App. A	App. A	
<b>8. OPERATING SCHEDULE INFORMATION</b>							
Hours/Day:	24	Days/Week:	7	Weeks/Year:	52	Max Hours/Year:	8,760
<b>Seasonal Variation</b>							
Dec. – Feb. (%):	25	Mar. – May (%):	25	June – Aug. (%):	25	Sept. – Nov. (%):	25

Attach sheets as necessary to provide any additional information.



**Bureau of Air Quality**  
**Construction Permit Application**  
**Part IIB: Process Source**  
**Page 3 of 3**

Please Refer to Instructions Before Completing This Form

**9. CONTROL DEVICE INFORMATION**

<b>Primary Control Device</b>		<b>Control Device ID:</b>	2723C2
		<b>Stack/Exhaust ID:</b>	2723S
<b>Manufacturer Make and Model:</b>		<b>Type of Device:</b> ESP	
<b>Inherent to Process:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>If inherent, please explain:</b>			
<b>Pollutants Controlled:</b>	<input checked="" type="checkbox"/> Particulate Matter (PM) <input checked="" type="checkbox"/> Particulate Matter < 10 Micron (PM <sub>10</sub> ) <input type="checkbox"/> Sulfur Dioxide (SO <sub>2</sub> ) <input type="checkbox"/> HAP/TAP		
	<input type="checkbox"/> Carbon Monoxide (CO) <input type="checkbox"/> Nitrogen Oxides (NO <sub>x</sub> ) <input type="checkbox"/> Volatile Organic Compounds (VOC)		
	<input type="checkbox"/> Other, Please list any other pollutants controlled:		
<b>Projected Capture Efficiency:</b> 99 %		<b>Destruction, Control, or Removal Efficiency:</b> 99 %	
<b>Engineering Design and Operating Characteristics:</b>			
<b>Manufacturer's Specifications and Ratings:</b>			
<b>Recommended Control Device Monitoring/Data Collection (include parameters):</b>			
<b>Recordkeeping:</b>			
<b>Secondary Control Device</b>		<b>Control Device ID:</b>	
		<b>Stack/Exhaust ID:</b>	
<b>Manufacturer Make and Model:</b>		<b>Type of Device:</b>	
<b>Inherent to Process:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>If inherent, please explain:</b>			
<b>Pollutants Controlled:</b>	<input type="checkbox"/> Particulate Matter (PM) <input type="checkbox"/> Particulate Matter < 10 Micron (PM <sub>10</sub> ) <input type="checkbox"/> Sulfur Dioxide (SO <sub>2</sub> ) <input type="checkbox"/> HAP/TAP		
	<input type="checkbox"/> Carbon Monoxide (CO) <input type="checkbox"/> Nitrogen Oxides (NO <sub>x</sub> ) <input type="checkbox"/> Volatile Organic Compounds (VOC)		
	<input type="checkbox"/> Other, Please list any other pollutants controlled:		
<b>Projected Capture Efficiency:</b> %		<b>Destruction, Control, or Removal Efficiency:</b> %	
<b>Engineering Design and Operating Characteristics:</b>			
<b>Manufacturer's Specifications and Ratings:</b>			
<b>Recommended Control Device Monitoring/Data Collection (include parameters):</b>			
<b>Recordkeeping:</b>			
<b>Additional Control Device</b>		<b>Control Device ID:</b>	
		<b>Stack/Exhaust ID:</b>	
<b>Manufacturer Make and Model:</b>		<b>Type of Device:</b>	
<b>Inherent to Process:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>If inherent, please explain:</b>			
<b>Pollutants Controlled:</b>	<input type="checkbox"/> Particulate Matter (PM) <input type="checkbox"/> Particulate Matter < 10 Micron (PM <sub>10</sub> ) <input type="checkbox"/> Sulfur Dioxide (SO <sub>2</sub> ) <input type="checkbox"/> HAP/TAP		
	<input type="checkbox"/> Carbon Monoxide (CO) <input type="checkbox"/> Nitrogen Oxides (NO <sub>x</sub> ) <input type="checkbox"/> Volatile Organic Compounds (VOC)		
	<input type="checkbox"/> Other, Please list any other pollutants controlled:		
<b>Projected Capture Efficiency:</b> %		<b>Destruction, Control, or Removal Efficiency:</b> %	
<b>Engineering Design and Operating Characteristics:</b>			
<b>Manufacturer's Specifications and Ratings:</b>			
<b>Recommended Control Device Monitoring/Data Collection (include parameters):</b>			
<b>Recordkeeping:</b>			

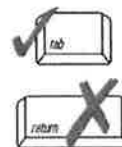
Appendix G  
Title V Minor Modification Forms





Title V Permit Application  
Facility Profile – Form A  
Bureau of Air Quality  
Page 1 of 1

Please Refer to Instruction Pages Before Completing This Form  
When filling out forms on the computer, use only the tab key to move your cursor - do not  
use the return key.



FACILITY INFORMATION								
1. Company Name for Permit:	Bowater Coated Paper Division		2. Existing State Air Permit Number:	2440-0005				
3. Business Mailing Address:	PO Box 7	4. City:	Catawba	5. State:	SC	6. Zip Code:	29704-	
7. Plant Location (Street or Highway):	5300 Cureton Ferry Road		8. City:	Catawba	9. State:	SC	10. Zip Code:	29704-
11. County:	York	12. Primary SIC Code:	2611	13. NAICS Code:				
14. EPA (AIRS) Facility Identification No.:			15. Latitude:			16. Longitude:		
17. Date Facility Was Built:	1959							

CONTACT INFORMATION					
RESPONSIBLE OFFICIAL AUTHORIZED REPRESENTATIVE:					
18. Last:	Forrest	19. First:	Mike		
20. Title:	Vice President and GM				
21. Mailing Address Line 1:	5300 Cureton Ferry Road				
22. Mailing Address Line 2:					
23. City:	Catawba	24. State:	SC	25. Zip Code:	29704-
26. Phone No.:	(803) 981-8000	ext.		27. Fax No.:	( ) -
28. E-mail Address:					
ENVIRONMENTAL / TECHNICAL CONTACT:					
29. Last:	Herendeen	30. First:	Dale		
31. Title:	Environmental Manager				
32. Mailing Address Line 1:	5300 Cureton Ferry Road				
33. Mailing Address Line 2:					
34. City:	Catawba	35. State:	SC	36. Zip Code:	29704-
37. Phone No.:	(803) 981-8009	ext.		38. Fax No.:	( ) -
39. E-mail Address:	dale.herendeen@abitibibowater.com				

PURPOSE OF APPLICATION	
40. Facility Type:	<input type="checkbox"/> Conditional Major <input checked="" type="checkbox"/> Title V <input type="checkbox"/> Co-Located Facility (co-located facility if yes, name and permit # of co-located facility):
41. Permit Action:	<input type="checkbox"/> New <input type="checkbox"/> Renewal Modification: <input type="checkbox"/> Administrative Amendment (Submit Form AA) <input checked="" type="checkbox"/> Minor Modification (Submit Form MM) <input type="checkbox"/> Significant Modification (Submit Form SM) <input type="checkbox"/> Operational Flexibility (Submit Form OF)
42. Attainment Area Designation: Is the source located within a non-attainment area for any of the criteria air pollutants?	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If "Yes", Indicate Non-attainment Pollutant(s): <input type="checkbox"/> PM <sub>2.5</sub> <input checked="" type="checkbox"/> O <sub>3</sub> (Precursor pollutants to Ozone are NO <sub>x</sub> and VOC)

SIGNATURES
I certify, to the best of my knowledge and belief, that no applicable standards and/or regulations will be contravened or violated. I certify that any application form, report, or compliance certification submitted in this permit application is true, accurate, and complete based on information and belief formed after reasonable inquiry. I understand that any statements and/or descriptions which are found to be incorrect may result in the immediate revocation of any permit issued for this application.

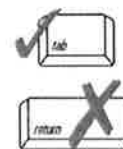
43. Responsible Official Signature/Authorized Representative	Title/Position	Date
<b>Note* For change or addition of responsible official(s) submit Responsible Official (RO) Notification Form (see attachment E)</b>		

CONSULTING FIRM INFORMATION							
44. Consulting Firm:	URS Corporation						
Preparer Name:	45. Last: Moore    46. First: Steven						
47. Mailing Address Line 1:	11 Brendan Way						
48. Mailing Address Line 2:	Suite 120						
49. City:	Greenville	50. State:	SC	51. Zip Code:	29615-		
52. Phone No.:	(864) 527-4734	ext.		53. Fax No.:	(864) 609-9069	54. E-mail Address:	steven_moore@urscorp.com

**\*\*INCOMPLETE APPLICATIONS WILL BE RETURNED\*\***



**Bureau of Air Quality  
Title V Permit Application  
Form MM – Title V Minor Modification**



**Page 1 of 2**

The South Carolina Department of Health and Environmental Control may modify the permit as described on this form through the procedures described in SC Regulation 61-62.70.7(e). You must apply for a minor permit modification in writing by submitting this form along with Form A. Construction permits that have been public noticed may be incorporated into the Title V permit using this form through the minor modification process. This form must be submitted to the Department at least fifteen days prior to placing the new or modified unit(s) into operation. Submit this form prior to making modifications to the facility.

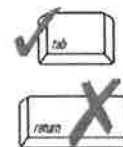
Check the box to indicate which of the following is the reason(s) for requesting a minor modification and provide the requested information.	
1. <input type="checkbox"/> modification to install new emissions units of like kind to units in the current permit and will use the same testing, monitoring, record keeping and reporting requirements to demonstrate compliance with applicable standards.	
2. <input checked="" type="checkbox"/> modify an emission unit. The modification will not result in new standards and limitation, and the testing, recordkeeping, monitoring and reporting requirements to demonstrate compliance will remain unchanged.	
3. <input checked="" type="checkbox"/> Install or <b>modify</b> an emission unit that is not a Title I modification.	
4. <input type="checkbox"/> Revise Testing, Monitoring, Recordkeeping or Reporting in a manner that is not required by the Department to be processed as a significant modification.	
5. <input type="checkbox"/> an amendment to incorporate into the Part 70 permit preconstruction review permit requirements in accordance with SC Regulation 61-62.70.7(d)(1)(v). (This procedure will be used for public noticed construction permits that establish "applicable requirements" to be incorporated into a Title V permit. This procedure is not available to PSD and other Title I modifications.)	
<b>NOTIFICATION</b>	
6. Date of Proposed Change: August 20, 2010	
7. Describe all changes affected by the modification, including emissions resulting for the change and any new applicable requirements that may apply. See Attachments	
8. Is an electronic copy of the Form and the source's draft permit included?(Contact the Department for an electronic copy of your permit) <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
9. Include a hard copy of the permit that clearly indicates the desired changes of the permit.	

EQUIPMENT/EMISSION UNIT DESCRIPTION							
Table is a description of emission units that are affected by the proposed modification.							
Emission Unit ID	Equipment ID	Equipment Description	Installation Date (Original, and/or Modification Date)	Modification Description	Control Device ID	Stack ID	Construction Permit ID or Exemption Date (if applicable)
07	2723	No. 2 Lime Kiln	2003	See Attachments	2723C2	2723S	

POLLUTANT DESCRIPTION				
Table is a description of the actual air emissions that are affected by the proposed modification. Attach detailed calculations to support data.				
Pollutant Name	CAS Number	Projected Actual Emissions (TPY) After the Modification	Actual Emissions (TPY) Facility Wide Prior to Modification	Facility Wide Change (+/-) in Actual Emissions (TPY)
See Attachments				



**Bureau of Air Quality  
Title V Permit Application  
Form MM – Title V Minor Modification**



Page 2 of 2

<b>FUEL CONSUMPTION</b>			
Table is a description of fuel usage affected by the proposed modification.			
Type(s) of Fuel	% Sulfur	Annual Usage(specify units)	Comments
See Attachments			

<b>PERMIT LANGUAGE</b>	
List the proposed language for revising the operating permit condition proposed to be changed.	
Cite Existing Operating Permit Condition:	Proposed Language for Permit Condition:
No proposed changes	

<b>APPLICABLE REQUIREMENTS</b>			
Cite and list any current applicable requirements that will apply or be affected by the proposed modification(s).			
Emission Unit ID	Cite Current Regulation	Emission or Operating Limitation	Cite Proposed Applicable Regulations
2723	See Attachments		

**Mail Completed Minor Modification Request Form and Supporting Documents to:**  
 Engineering Services Division, Bureau of Air Quality  
 South Carolina Department of Health and Environmental Control  
 2600 Bull Street  
 Columbia, South Carolina 29201  
**and the**  
 Local District Environmental Quality Control Office